

Self-Destructing Filter Cake

Abstract

A composition and method are given for self-destructive fluid loss additives and filter cakes in wellbores and subterranean formations. The fluid loss additives and filter cakes are formed from a mixture of particulate solid acid-precursors, such as a polylactic acid or a polyglycolic acid, and particulate solid acid-reactive materials, such as magnesium oxide or calcium carbonate. In the presence of water, the solid acid-precursors hydrolyze and dissolve, generating acids that then dissolve the solid acid-reactive materials. The composition is used in oilfield treatments such as drilling, completion and stimulation where it disappears when it is no longer needed without the use of mechanical means or injection of additional fluids.